Amendments to the Claims

1. - 6. (Canceled)

7. (Currently Amended) A photosensor-amplifier device ~~as claimed in claim 1, further~~ comprising:

a photoelectric conversion element that converts an optical signal into an electric signal;

a first electrode connected electrically to the photoelectric conversion element and by which the electric signal is extracted from the photoelectric conversion element;

a second electrode formed on the photoelectric conversion element in close proximity to the first electrode in such a way that the electric signal does not pass through the second electrode;

an amplifier circuit that has a first input terminal and a second input terminal and that amplifies and then outputs a difference between electric signals fed to the first and second input terminals;

a first bonding wire that connects the first electrode to the first input terminal; and

a second bonding wire having substantially an identical length as the first bonding wire and laid side-by-side substantially parallel to the first bonding wire, the second bonding wire that connects the second electrode to the second input terminal,

wherein each of the first electrode, the second electrode, the first input terminal, and the second input terminal are arranged in a substantially rectangular shape in plan view such that the first and second bonding wires receive electromagnetic noise in

substantially equal degrees so that noise signals induced in the first and second bonding wires are made substantially equal to each other,

the photosensor-amplifier device further comprising:

a substrate on which a first element formed as the photoelectric conversion element and a second element formed as the amplifier circuit are mounted; and

a first conductor pattern and a second conductor pattern formed on the substrate,

wherein the first bonding wire comprises a first portion and a second portion,

the first portion of the first bonding wire connects the first electrode to the first conductor pattern, and the second portion of the first bonding wire connects the first conductor pattern to the first input terminal,

the second bonding wire comprises a first portion and a second portion,

the first portion of the second bonding wire connects the second electrode to the second conductor pattern, and the second portion of the second bonding wire connects the second conductor pattern to the second input terminal.

8. (Previously Presented) A photosensor-amplifier device as claimed in claim 7,

wherein, when the first and second bonding wires are bonded, a first-bonding operation is performed on the first and second elements and a second-bonding operation is performed on the first and second conductor patterns, respectively.

9. - 11. (Cancelled)

12. (Currently Amended) A photosensor-amplifier device ~~as claimed in claim 11,~~ comprising:

a first chip having a photoelectric conversion element that converts an optical signal into an electric signal;

a first electrode formed on the first chip and connected electrically to the photoelectric conversion element;

a second electrode formed on the first chip so as to be located in close proximity to the first electrode;

a second chip having an amplifier circuit for amplifying and outputting a difference between electric signals fed thereto;

a first input terminal formed on the second chip and connected electrically to one input portion of the amplifier circuit;

a second input terminal formed on the second chip so as to be located in close proximity to the first input terminal and connected electrically to another input portion of the amplifier circuit;

a first bonding wire connecting the first electrode to the first input terminal; and

a second bonding wire having substantially an identical length as the first bonding wire and laid substantially parallel thereto, the second bonding wire connecting the second electrode to the second input terminal,

wherein identical bias voltages are applied to the first and second input terminals,

wherein each of the first electrode, the second electrode, the first input terminal, and the second input terminal are arranged in a substantially rectangular shape in plan view such that the first and second bonding wires receive electromagnetic noise in substantially equal degrees so that noise signals induced in the first and second bonding wires are made substantially equal to each other,

wherein the photoelectric conversion element is a photodiode formed, on a semiconductor substrate of one conductivity type, by joining a semiconductor of another conductivity type and coating a top surface with an insulating film;

the first electrode is formed by removing a part of the insulating film so that the first electrode is made contact with the semiconductor of another conductivity type; and

the second electrode is formed on the insulating film and is electrically open.

13. (Currently Amended) A photosensor-amplifier device ~~as claimed in claim 11,~~ comprising:

a first chip having a photoelectric conversion element that converts an optical signal into an electric signal;

a first electrode formed on the first chip and connected electrically to the photoelectric conversion element;

a second electrode formed on the first chip so as to be located in close proximity to the first electrode;

a second chip having an amplifier circuit for amplifying and outputting a difference between electric signals fed thereto;

a first input terminal formed on the second chip and connected electrically to one input portion of the amplifier circuit;

a second input terminal formed on the second chip so as to be located in close proximity to the first input terminal and connected electrically to another input portion of the amplifier circuit;

a first bonding wire connecting the first electrode to the first input terminal; and

a second bonding wire having substantially an identical length as the first bonding wire and laid substantially parallel thereto, the second bonding wire connecting the second electrode to the second input terminal,

wherein identical bias voltages are applied to the first and second input terminals,

wherein each of the first electrode, the second electrode, the first input terminal, and the second input terminal are arranged in a substantially rectangular shape in plan view such that the first and second bonding wires receive electromagnetic noise in substantially equal degrees so that noise signals induced in the first and second bonding wires are made substantially equal to each other,

wherein the first chip includes a first region formed, in a top portion of a semiconductor substrate of one conductivity type, by joining a semiconductor of another conductivity type; a second region, sufficiently smaller than the first region, formed in the top portion of the identical semiconductor substrate by joining the semiconductor of another conductivity type; and an insulating film coating a top surface of the first chip,

a photodiode is formed by removing a part of the insulating film that coats the first region and by forming the first electrode so as to be made contact with the first region,

a dummy photodiode shielded from light is formed by removing a part of the insulating film that coats the second region and by forming the second electrode in such a way that the second electrode is made contact with the second region through the removed part of the insulating film and that the second electrode covers all of a top portion of the second region.

14. (Currently Amended) A photosensor-amplifier device ~~as claimed in claim 11, further~~ comprising:

a first chip having a photoelectric conversion element that converts an optical signal into an electric signal;

a first electrode formed on the first chip and connected electrically to the photoelectric conversion element;

a second electrode formed on the first chip so as to be located in close proximity to the first electrode;

a second chip having an amplifier circuit for amplifying and outputting a difference between electric signals fed thereto;

a first input terminal formed on the second chip and connected electrically to one input portion of the amplifier circuit;

a second input terminal formed on the second chip so as to be located in close proximity to the first input terminal and connected electrically to another input portion of the amplifier circuit;

a first bonding wire connecting the first electrode to the first input terminal; and

a second bonding wire having substantially an identical length as the first bonding wire and laid substantially parallel thereto, the second bonding wire connecting the second electrode to the second input terminal,

wherein identical bias voltages are applied to the first and second input terminals,

wherein each of the first electrode, the second electrode, the first input terminal, and the second input terminal are arranged in a substantially rectangular shape in plan view such that the first and second bonding wires receive electromagnetic noise in substantially equal degrees so that noise signals induced in the first and second bonding wires are made substantially equal to each other,

the photosensor-amplifier device further comprising:

a substrate, having a first conductor pattern and a second conductor pattern formed thereon, for mounting the first chip and the second chip thereon,

wherein the first bonding wire comprises a first portion and a second portion,

the first portion of the first bonding wire connects the first electrode to the first conductor pattern, and the second portion of the first bonding wire connects the first conductor pattern to the first input terminal,

the second bonding wire comprises a first portion and a second portion,

the first portion of the second bonding wire connects the second electrode to the second conductor pattern, and the second portion of the second bonding wire connects the second conductor pattern to the second input terminal.

15. (Previously Presented) A photosensor-amplifer device as claimed in claim 14,

wherein, when the first and second bonding wires are bonded, a first-bonding operation is performed on the first and second chips and a second-bonding operation is performed on the first and second conductor patterns respectively.